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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,844	12/28/2007	**Dongchan Ahn**	71,038-092	7876

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EXAMINER	
LOEWE, ROBERT S	
ART UNIT	**PAPER NUMBER**
1796	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/585,844	AHN ET AL.	
	Examiner	Art Unit	
	ROBERT LOEWE	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26,54 and 55* is/are pending in the application.

4a) Of the above claim(s) *8-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,7,15-17 and 19-26* is/are rejected.

7)☒ Claim(s) *5,18,54 and 55* is/are objected to.

8)☒ Claim(s) *1-26,54 and 55* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/26/07,12/28/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

(1) fluorine-substituted organopolysiloxane

(2) amino-functional organopolysiloxane, and

(3) unsaturated carboxylic acid or carboxylic acid salt

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise require all the limitations of an allowed generic claim. Currently, the following claim(s) are generic: 1, 21-26, 54 and 55.

The claims are deemed to correspond to the species listed above in the following manner: species (1), claims 1-7 and 15-20; species (2), claims 8-11, and species (3), claims 12-14. The following claim(s) are generic: 1, 21-26, 54 and 55.

Species (1)-(3) recited above are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species.

During a telephone conversation with Mr. David LaPrairie on 1/14/10 a provisional election was made with traverse to species (1), the fluorine-substituted organopolysiloxane, which applies to claims 1-7, 15-26, 54 and 55. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Interpretation

The preamble of instant claim 1 reads "A composition having improved adherence with an addition-curable material". It is interpreted by the Examiner that the recited improved adherence is the result of the addition of the claimed additive; that is to say, the claimed improved adherence is believed to result when comparing two compositions which are identical in all aspects with the exception that one composition contains the claimed additive and the other composition does not. It is the additive which causes the improved adherence with the addition-curable material of the preamble. Further, the composition as claimed does not require the

addition-curable material; moreover, the claim preamble is directed to a future intended use and not required by compositions taught in the prior art which otherwise satisfy applicants claimed composition, but are silent as to their uses with addition-curable materials; the compositions taught in the prior art need only be capable of improving the adherence with an addition-curable material.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 22, 24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Konkle et al. (US Pat. 2,934,515).

Claims 1-4, 6, 24 and 26: Konkle et al. teaches polytetrafluoroethylene (PTFE)-silicone blends. The PTFE is a resin free of Si-H functional and ethylenically unsaturated groups. The silicone is taught as an additive for improving the physical properties of PTFE gasket materials. The silicone is taught to be an organopolysiloxane gum which possesses fluoroalkyl groups and it taught to further include up to 10 mol% of other groups including vinyl (1:69). In such instances, the fluorine-substituted organopolysiloxane possesses groups which are reactive with addition-curable materials. Konkle et al. exemplifies a fluorine-substituted organopolysiloxane possessing such vinyl groups (example 1). The presence of such groups is expected to improve the adherence with an addition-curable material, since the binary blends taught by Konkle et al.

would inherently possess the functionality required which allows for covalent attachment with the addition-curable materials disposed thereon. As explained in the claim interpretation above, Konkle et al. does not need to teach that the blends are subjected to treatment with an addition-curable material for Konkle et al. to satisfy instant claim 1. A chemical composition and its properties are inseparable. Since Konkle et al. teaches Applicants claimed composition, any resulting physical properties (improved adhesion with an addition-curable material) would inherently be satisfied.

Claim 22: Konkle et al. teaches that the milled compositions may be vulcanized using free radical initiators (3:33-40).

Claims 1-4, 6, 22, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Day et al. (US Pat. 3,715,411).

Claims 1-4, 6, 24 and 25: Day et al. teaches butadiene-acrylonitrile-silicone rubber blends. The acrylonitrile is a resin free of Si-H functional and ethylenically unsaturated groups. The silicone is taught to be an organopolysiloxane gum which possesses fluoroalkyl groups and vinyl groups (2:9-10). The presence of such vinyl groups is expected to improve the adherence with an addition-curable material, since the binary blends taught by Day et al. would inherently possess the functionality required which allows for covalent attachment with the addition-curable materials disposed thereon. As explained in the claim interpretation above, Day et al. does not need to teach that the blends are subjected to treatment with an addition-curable material for Day et al. to satisfy instant claim 1. A chemical composition and its properties are inseparable. Since

Day et al. teaches Applicants claimed composition, any resulting physical properties (improved adhesion with an addition-curable material) would inherently be satisfied.

Claim 22: Day et al. teaches that the milled compositions are vulcanized using free radical initiators (2:37-52).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konkle et al. (US Pat. 2,934,515) as applied to claim 1 above.

Konkle et al. teaches Applicants claimed composition of instant claim 1, as described above. Konkle et al. teaches that the silicone additive is added from 20 to 80 parts per 100 parts by weight of resin, which partially overlaps with the range of instant claim 23 (1:56-58).

Claims 1-4, 6, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al. (US 2002/0006998).

Furukawa et al. teaches molded products comprised of two thermoplastic elastomers which satisfy the requirements of the resin component of instant claims 1 and 24-26 and from 0.1 to 20 parts of a polyorganosiloxane (abstract). Regarding the organopolysiloxane, Furukawa et al. explicitly teaches that it may be comprised of perfluorinated groups, such as 3,3,3-trifluoropropyl and vinyl groups (paragraph 0010). The blends of the thermoplastic elastomers and polyorganosiloxanes would result in a composition which possesses groups which are reactive with an addition curable material. As explained in the claim interpretation above, Furukawa et al. does not need to teach that the blends are subjected to treatment with an addition-curable material for Furukawa et al. to satisfy instant claim 1. A chemical composition and its properties are inseparable. Since Furukawa et al. teaches Applicants claimed composition, any resulting physical properties (improved adhesion with an addition-curable material) would inherently be satisfied.

Claims 1-4, 6, 7, 15-17, 19-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caporiccio et al. (US Pat. 5,457,158).

Claims 1-4, 6, 7, 15-17, 19, 20, 24 and 26: Caporiccio et al. teaches blends of fluorosilicone elastomers and vinylidene fluoride polymers (abstract). The vinylidene fluoride polymers satisfy the resin component of instant claims 1, 24 and 26. Regarding the fluorosilicone elastomers, Caporiccio et al. teaches that they may be of formula (I) (2:31).

Compounds which render obvious the limitations for claims 2-4, 6, 7, 15-17, 19 and 20 are readily envisioned by Formula (I) of Caporiccio et al. As explained in the claim interpretation above, Caporiccio et al. does not need to teach that the blends are subjected to treatment with an addition-curable material for Caporiccio et al. to satisfy instant claim 1. A chemical composition and its properties are inseparable. Since Caporiccio et al. teaches Applicants claimed composition, any resulting physical properties (improved adhesion with an addition-curable material) would inherently be satisfied.

Claim 21: Caporiccio et al. teaches the addition of organic compatibilizing agents [component (C) of Caporiccio et al.].

Claim 22: Caporiccio et al. teaches the addition of free radical initiators (2:1-12).

Claim 23: Caporiccio et al. teaches that the silicone component may be added in amounts which satisfy that of instant claim 23 (1:65-2:1).

Relevant Art Cited

Additional prior art documents which are relevant to Applicants invention can be found on the attached PTO-892 form.

Allowable Subject Matter

Claims 5, 18, 54 and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding instant claims 5 and 18, none of the prior art of record teaches or suggests the fluorinated organopolysiloxanes may be copolymers with the specific polymers as recited in claims 5 and 18. It is clear from the art of record that silicone polymers (which includes polysiloxane homo- and copolymers) are envisioned and not silicone copolymers which possess non-silicone blocks as required.

Regarding instant claims 54 and 55, the prior art references cited above, while believed to teach or render obvious the compositions of instant claim 1, do not teach the fluorinated silicone additives and the resulting blends/mixtures with the resin components are prepared into a molded article or any article such that they comprise a substrate, wherein an addition-curable material is dispensed onto said substrate, thereby forming a composite article. The end uses of the prior art relied upon above ranges from O-rings to gaskets to tubes. Such teachings are insufficient to teach or render obvious to a person having ordinary skill in the art to then apply an addition curable material onto these end products, or any material for that matter. Applicants have recognized that adding fluorinated organopolysiloxanes which possess hydrosilylation reactive groups (e.g., Si-H or Si-vinyl) to resin components allows for the resulting molded articles to possess improved adhesion when said molded articles are joined together or sealed. It is known that applying addition-curable silicone sealants, joining compounds to organic substrates is time consuming and does not always produce good adhesion. Applicants have discovered that the addition of the claimed organofunctional silicone additives to such resins improves the adhesion of said resins to addition-curable materials, which is not believed to be a feature taught or recognized by the prior art. It is believed that improper hindsight reconstruction would have

been required in an attempt to formulate any obviousness rejection using the prior art above as well as any other prior art of record.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Loewe whose telephone number is (571) 270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Loewe/
Patent Examiner, Art Unit 1796
1-Apr-10